

REMARKS

This Amendment, Response, and Request for Continued Examination Pursuant to 37 CFR 1.114 is being submitted in response to the final Office Action mailed June 29, 2005. Claims 1-21 are pending in the Application. Claims 1-6 stand rejected under 35 U.S.C. 102(e) as being anticipated by, or in the alternative, under 35 U.S.C. 103(a) as being unpatentable over, Anderson et al. (U.S. Patent No. 6,597,691). Claims 7-21 stand rejected under 35 U.S.C. 102(e) as being anticipated by Anderson et al.

In response to these rejections, Claims 1, 17, and 21 have been amended to further clarify the subject matter which Applicants regard as the invention. These amendments are fully supported in the Specification, Drawings, and Claims of the Application and no new matter has been added. Based upon the amendments, reconsideration of the Application is respectfully requested in view of the following remarks.

Rejection of Claims 1-6 Under 35 U.S.C. 102(e) and 103(a); Rejection of Claims 7-21 Under 35 U.S.C. 102(e) – Anderson et al.:

Claims 1-6 stand rejected under 35 U.S.C. 102(e) as being anticipated by, or in the alternative, under 35 U.S.C. 103(a) as being unpatentable over, Anderson et al. (U.S. Patent No. 6,597,691). Further, Claims 7-21 stand rejected under 35 U.S.C. 102(e) as being anticipated by Anderson et al. Specifically, with regard to Applicants' previous argument that the mid-planes are physical layer switches which connect on a packet-by-packet basis and not on a frame-by-frame basis, and with regard to Applicants previous argument that the cross-connection subsystem and the mid-planes are directly and physically connected with "nothing" in between, Examiner states that the features upon which Applicants rely are not recited in the rejected claims.

In response to this rejection, independent Claim 1 has been amended to recite:

1. A network device, comprising:
 - a plurality of ports for data ingress and egress;
 - a plurality of mid-planes;
 - a cross-connection subsystem connected to said ports and to at least one of said mid-planes; and
 - a switch fabric subsystem coupled to each of the plurality of mid-planes,wherein said cross-connection subsystem is ***directly and physically*** connected to at least one of said mid-planes and functions ***as a physical layer switch which connects on a packet-by-packet basis***, and wherein said switch fabric subsystem functions ***as an upper layer switch***.

Likewise, independent Claim 17 has been amended to recite:

17. A network device, comprising:
 - a first mid-plane;
 - a second mid-plane;
 - a switch fabric card coupled to the first mid-plane and the second mid-plane;
 - a first cross-connection card ***directly and physically*** connected to the first mid-plane;
 - a first port card connected to the first mid-plane and coupled to the first cross-connection card through the first mid-plane, said first port card functioning ***as a physical layer switch which connects on a packet-by-packet basis***; and
 - a first forwarding card connected to the first mid-plane and coupled to the first cross-connection card and the switch fabric card through the first mid-plane,wherein said switch fabric card and said first forwarding card function ***as an upper layer switch***.

Likewise, independent Claim 21 has been amended to recite:

21. A network device, comprising:
 - a plurality of ports for data ingress and egress;
 - a plurality of mid-planes;
 - a cross-connection subsystem connected to said ports and to at least one of said mid-planes;

a plurality of forwarding cards; and
a switch fabric subsystem coupled to each of the plurality of mid-planes,

wherein said cross-connection subsystem is ***directly and physically*** connected to at least one of said mid-planes and functions ***as a physical layer switch which connects on a packet-by-packet basis***, and

wherein said switch fabric subsystem functions ***as an upper layer switch***.

These amendments are fully supported in the first full paragraph on page 90 of the Specification, which states “[t]he universal port cards and cross-connect cards in each quadrant are in effect a physical layer switch, and the forwarding cards and switch fabric cards are effectively an upper layer switch.” “Prior systems have packaged these two switches into separate network devices.” “Combining such high capacity multi-layer switches into one network device in a single telco rack ... has not been thought possible by those skilled in the art of telecommunications network devices.” Further, the last paragraph on page 90 of the Specification states “[t]o fit network device 540 into a single telco rack, dual mid-planes are used ... [and] the functional printed circuit boards connect to at least one of the mid-planes, and the switch fabric cards and certain control cards connect to both mid-planes thereby providing connections between the two mid-planes.” See also Figure 35.

As has been argued previously, the mid-planes of the present invention are physical layer switches which connect on a packet-by-packet basis, whereas the connectionless backplane of Anderson et al. is a router subsystem that provides connections on a frame-by-frame basis. Further, the connectionless backplane of Anderson et al. is not directly and physically connected to a cross-connection subsystem that functions as a physical layer switch which connects on a packet-by-packet basis. In particular, the connectionless crossbar of each ASIC is not directly coupled to the connectionless backplane, but, rather, is coupled to the connectionless backplane via a plurality of ports. Thus, the features upon which Applicants rely as salient and patentable features of the present invention are now recited in independent Claims 1, 17, and 21, at

Examiner's suggestion.

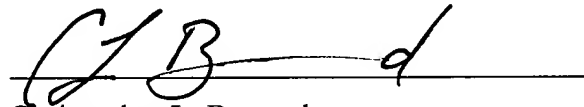
Therefore, Applicants respectfully request that the rejections of independent Claims 1, 17, and 21 under 35 U.S.C. 102(e) and 103(a) as being anticipated by, or in the alternative, under 35 U.S.C. 103(a) as being unpatentable over, Anderson et al. have now been overcome, and respectfully request that these rejections be withdrawn and that the claims be allowed. Because Claims 2-16 and 18-20 are dependent from independent Claims 1, 17, and 21, Applicants submit that the rejection of these claims under 35 U.S.C. 102(e) and 103(a) as being anticipated by, or in the alternative, under 35 U.S.C. 103(a) as being unpatentable over, Anderson et al. have also now been overcome, and respectfully request that the claims be allowed.

CONCLUSION

Applicants would like to thank Examiner for the attention and consideration accorded the present Application. Should Examiner determine that any further action is necessary to place the Application in condition for allowance, Examiner is encouraged to contact undersigned Counsel at the telephone number, facsimile number, address, or email address provided below. It is not believed that any fees for additional claims, extensions of time, or the like are required beyond those that may otherwise be indicated in the documents accompanying this paper. However, if such additional fees are required, Examiner is encouraged to notify undersigned Counsel at Examiner's earliest convenience.

Respectfully submitted,

Date: September 27, 2005

A handwritten signature in dark ink, appearing to read 'C L Bernard', is written over a horizontal line.

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